Listing of claims

Claims 1-36 (canceled)

37. (Currently amended) An array composition comprising:

a) a substrate with a surface comprising discrete sites at a density of at least 100 sites per 1 mm^2, wherein said discrete sites are wells; and

b) a population of microspheres randomly distributed on said sites, wherein said population comprises at least a first and a second subpopulation each comprising a different bioactive agent and do not comprise ~~a label~~ an optical tag.

38. (Currently amended) An array composition comprising:

a) a substrate with a surface comprising discrete sites at a density of at least 100 sites per 1 mm^2, wherein said discrete sites are wells; and

b) a population of microspheres randomly distributed on said sites, wherein said population comprises at least a first and a second subpopulation each comprising a different bioactive agent and ~~An array according to claim 37,~~ wherein each subpopulation further comprises a different identifier binding ligand.

39. (Previously presented) An array according to claim 37 or 38, further comprising at least one decoder binding ligand comprising a label.

40. (Currently amended) An array composition according to claim 37 or 38, wherein said bioactive agents are nucleic acids.

41. (Previously presented) An array composition according to claim 40 wherein said nucleic acids are DNA.

42. (Previously presented) An array composition according to claim 40 wherein said nucleic acids are single stranded nucleic acids.

43. (Previously presented) An array composition according to claim 40 wherein said nucleic acids are double stranded nucleic acids.

44. (Currently amended) An array composition according to claim 37 or 38, wherein said bioactive agents are proteins.

45. (Currently amended) An array composition according to claim 37 or 38, wherein said substrate is a fiber optic bundle.

46. (Currently amended) An array composition according to claim 37 or 38, wherein said substrate is glass.

47. (Currently amended) An array composition according to claim 37 or 38, wherein said substrate is plastic.

48. (Canceled)

49. (Canceled)

50. (Canceled)

51. (Currently amended) An array composition comprising:

a) a fiber optic substrate with a surface comprising wells at a density of at least 100 sites per 1 mm^2; and

b) a population of microspheres randomly distributed in said wells, wherein said population comprises at least a first and a second subpopulation each comprising a different bioactive agent and do not comprise ~~a label~~ an optical tag.

52. (Previously presented) An array composition comprising:

a) a substrate with a surface comprising discrete sites at a density of at least 100 sites per 1 mm^2; and

b) a population of microspheres comprising at least a first and a second subpopulation, wherein said first and said second subpopulations each comprise:

i) a different protein bioactive agent; and

ii) a different nucleic acid identifier binding ligand;

wherein said microspheres are randomly distributed on said sites.

53. (Currently amended) An array composition according to claim [[15]] 52, 54 or 55, wherein said substrate is selected from the group consisting of fiber optic bundles, plastic and glass.

54. (Previously presented) An array composition comprising:

a) a fiber optic bundle with a surface comprising discrete wells at a density of at least 100 sites per 1 mm^2; and

b) a population of microspheres comprising at least a first and a second subpopulation, wherein said first and said second subpopulations each comprise:

i) a different protein bioactive agent; and

ii) a different nucleic acid identifier binding ligand;

wherein said microspheres are randomly distributed on said sites.

55. (Previously presented) A method of making a composition comprising:

a) forming a substrate with a surface comprising discrete sites at a density of at least 100 sites per 1 mm^2; and

b) randomly distributing a population of microspheres on said surface such that individual sites contain microspheres, wherein said population comprises at least a first and second subpopulation, wherein said first and second subpopulations each comprise:

i) a different protein bioactive agent; and

ii) a different nucleic acid identifier binding ligand;

c) binding a first and second distinct decoder binding ligand to said first and second distinct identifier binding ligand.

56. (New) The array according to claim 52, 54 or 58, further comprising at least one decoder binding ligand comprising a label.

57. (New) The array according to claim 53, further comprising at least one decoder binding ligand comprising a label.

58. (New) The array composition according to claim 52, 54 or 55, wherein said nucleic acid identifier binding ligands are DNA.

59. (New) The array composition according to claim 52, 54 or 55, wherein said nucleic acid identifier binding ligands are single stranded nucleic acids.

60. (New) The array composition according to claim 53 wherein said substrate is a fiber optic bundle.

61. (New) An array composition according to claim 53 wherein said substrate is glass.

62. (New) An array composition according to claim 53 wherein said substrate is plastic.